

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. – 8. (Canceled).

9. (Currently Amended) ~~The~~ A radio communications apparatus ~~according to claim 4, for simultaneously transmitting a local oscillation signal used when an intermediate frequency band signal is converted to a radio frequency band signal by a mixer unit, and the radio frequency band signal, comprising:~~

a control unit configured to change a modulation scheme in accordance with the quality of communication and controlling an output power of the local oscillation signal,

wherein said mixer unit can control an output power of the local oscillation signal under the control of said control unit,

wherein said mixer unit has:

a first power splitter for equally splitting the local oscillation signal with phase difference α_2 ;

a second power splitter for equally splitting the intermediate frequency band signal with phase difference β_2 ;

a first and a second mixer each for mixing the local oscillation signal delivered from said first power splitter with the intermediate frequency band signal delivered from said second power splitter; and

a power combiner for combining a radio frequency band signal generated from said first mixer and a radio frequency band signal generated from said second mixer with equal power and phase difference γ_2 ,

wherein a DC bias to said mixer is controlled by said control unit under a relationship of:

$$\alpha_2 + \beta_2 + \gamma_2 = 2n\pi \text{ and } \alpha_2 - \beta_2 + \gamma_2 = (2n + 1)\pi \text{ (n is an integer).}$$

10. - 19. (Canceled).

20. (Currently Amended) ~~The A mixer unit according to claim 15~~ in a radio communications apparatus for simultaneously transmitting a radio frequency band signal and a local oscillation signal used when an intermediate frequency band signal is converted to the radio frequency band signal, said mixing unit comprising:

an output power of the local oscillation signal can be controlled by a control signal in accordance with a quality of communication;

a first power splitter for equally splitting the local oscillation signal with phase difference α_2 ;

a second power splitter for equally splitting the intermediate frequency band signal with phase difference β_2 ;

a first and a second mixer each for mixing the local oscillation signal delivered from said first power splitter with the intermediate frequency band signal delivered from said second power splitter; and

a power combiner for combining a radio frequency band signal generated from said first mixer and a radio frequency band signal generated from said second mixer with equal power and phase difference γ_2 ,

wherein a DC bias to said mixer is controlled by the control signal under a relationship of:

$$\alpha_2 + \beta_2 + \gamma_2 = 2n\pi \text{ and } \alpha_2 - \beta_2 + \gamma_2 = (2n+1)\pi \text{ (n is an integer).}$$

21. (Canceled).

22. (Canceled).